



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/522,307	09/26/2005	Hironori Endo	Q85847	6405
72875	7590	06/27/2008	EXAMINER	
SUGHRUE MION, PLLC			GOLDBERG, BRIAN J	
2100 Pennsylvania Avenue, N.W.				
Washington, DC 20037			ART UNIT	PAPER NUMBER
			2861	
			NOTIFICATION DATE	DELIVERY MODE
			06/27/2008	ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

USPTO@sughrue.com  
kghyndman@sughrue.com  
USPatDocketing@sughrue.com

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/522,307	ENDO ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Brian J. Goldberg	2861	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 11 April 2008.  
 2a) This action is **FINAL**.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-37 is/are pending in the application.  
 4a) Of the above claim(s) 2-16 is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1 and 17-37 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on 25 January 2005 is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____ .
3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date <u>See Continuation Sheet</u> .	5) <input type="checkbox"/> Notice of Informal Patent Application
	6) <input type="checkbox"/> Other: _____ .

Continuation of Attachment(s) 3). Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date :1/25/05, 6/7/06, 4/19/07, 2/6/08.

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicant's election without traverse of Group I, claims 1 and 17-37 in the reply filed on 4/11/08 is acknowledged.
2. Claims 2-16 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 4/11/08.

### ***Claim Objections***

1. Claim 36 is objected to because of the following informalities: the limitations, "wherein said liquid ejecting apparatus ejects the ink onto the edge of said medium to be printed using a portion of said plurality of nozzles after said sensor no longer detects said medium to be printed" and "wherein said liquid ejecting apparatus ejects the ink onto said medium to be printed using all of said plurality of nozzles in a state where said sensor no longer detects said medium to be printed" are contradictory and cannot both occur at the same time since they are essentially distinct embodiments (i.e., using all of the nozzles cannot be done in the same condition as using only a portion of the nozzles). Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 17-26, 28, 29, 31, 35, and 37 are rejected under 35 U.S.C. 102(b) as being anticipated by Morikawa (JP 10138583, also see provided English translation).

4. Regarding claim 1, Morikawa discloses “a movable head (11 of Fig 3) that is provided with a plurality of nozzles (11a-x of Fig 3) for ejecting a liquid; a carry unit (5 and 6 of Fig 2) for carrying a medium (4 of Fig 2) in a predetermined carrying direction (see arrows A or A' of Fig 2); and a sensor (20 of Fig 3) for detecting an edge of said medium; wherein said liquid ejecting apparatus controls ejection of said liquid from said plurality of nozzles in accordance with a result of the detection of said sensor (see Par [0013]); and wherein a position, in the carrying direction, of said sensor is at the same position of or on an upstream side of a nozzle located most upstream in said carrying direction, of among said plurality of nozzles (see Fig 3, where 20 is upstream of 11a-x).”

5. Regarding claim 17, Morikawa discloses “a main computer unit (101 of Fig 4, Par [0025]); and a liquid ejecting apparatus that is connectable (102 of Fig 4) to said main computer unit and that is provided with a movable head (11 of Fig 3) that is provided with a plurality of nozzles (11a-x of Fig 3) for ejecting a liquid; a carry unit (5 and 6 of Fig 2) for carrying a medium (4 of Fig 2) in a predetermined carrying direction (see arrows A or A' of Fig 2); and a sensor (20 of Fig 3) for detecting an edge of said medium; wherein said liquid ejecting apparatus controls ejection of said liquid from said plurality of nozzles in accordance with a result of the detection of said sensor (see Par [0013]); and wherein a position, in the carrying direction, of said sensor is at the same position of or on an upstream side of a nozzle located most upstream in said carrying direction, of among said plurality of nozzles (see Fig 3, where 20 is upstream of 11a-x).”

6. Regarding claim 18, Morikawa discloses “a movable head (11 of Fig 3) that is provided with a plurality of nozzles (11a-x of Fig 3) for ejecting a liquid; a carry unit (5 and 6 of Fig 2) for carrying a medium (4 of Fig 2) in a predetermined carrying direction (see arrows A or A' of Fig 2); and a sensor (20 of Fig 3) for detecting an edge of said medium and that is movable with said head (see position of 20 on 11 of Fig 3); wherein said liquid ejecting apparatus controls ejection of said liquid from said plurality of nozzles in accordance with a result of the detection of said sensor (see Par [0013]); and wherein a position, in the carrying direction, of said sensor is at the same position of or on an upstream side of a nozzle located most upstream in said carrying direction, of among said plurality of nozzles (see Fig 3, where 20 is upstream of 11a-x).”

7. Regarding claim 19, Morikawa discloses “a movable head (11 of Fig 3) that is provided with a plurality of nozzles (11a-x of Fig 3) for ejecting a liquid; a carry unit (5 and 6 of Fig 2) for carrying a medium (4 of Fig 2) in a predetermined carrying direction (see arrows A or A' of Fig 2); and a sensor (20 of Fig 3) for detecting an edge of said medium and that is movable with said head (see position of 20 on 11 of Fig 3); wherein said liquid ejecting apparatus controls ejection of said liquid from said plurality of nozzles in accordance with a result of the detection of said sensor (see Par [0013]); and wherein a position, in the carrying direction, of said sensor is on an upstream side of a nozzle located most upstream in said carrying direction, of among said plurality of nozzles (see Fig 3, where 20 is upstream of 11a-x).”

8. Regarding claim 20, Morikawa discloses “wherein said sensor detects a lateral edge of said medium (see Fig 2, Par[0018]); and wherein said liquid ejecting apparatus

controls ejection of the liquid from said plurality of nozzles in accordance with a position of the lateral edge of said medium that has been detected (see Fig 2, Par [0013])."

9. Regarding claim 21, Morikawa discloses "a position, on the most downstream side in said carrying direction, of a detection region of said sensor is located on the upstream side, in said carrying direction, of said nozzle located most upstream in said carrying direction (see Figs 2 and 3, where the detection region would be directly below the position of sensor 20 which is upstream of nozzle 11a)."

10. Regarding claim 22, Morikawa discloses "said carry unit carries said medium by a predetermined carry amount in said carrying direction (see arrows A or A' of Fig 2, Par [0015]); and wherein the position, in the carrying direction, of said sensor is on the upstream side, in said carrying direction, away from said nozzle located most upstream in said carrying direction by more than said carry amount (Par [0019] and Fig 3 where L is greater than E)."

11. Regarding claim 23, Morikawa discloses "said liquid ejecting apparatus ejects the liquid onto the edge of said medium using a portion of said plurality of nozzles after said sensor no longer detects said medium (according to Figs 2 and 3, Par [0019] and [0029], the invention of Morikawa would be capable of performing this method operation when printing at the bottom of the page--since this is an apparatus claim, and the apparatus of Morikawa discloses all of the physical limitations of the claimed apparatus, the apparatus of Morikawa must only be capable of performing this method limitation)."

12. Regarding claim 24, Morikawa discloses "wherein said liquid ejecting apparatus ejects the liquid onto said medium using all of said plurality of nozzles in a state where

said sensor no longer detects said medium, and after said carry unit has further carried said medium by said carry amount, said liquid ejecting apparatus ejects said liquid onto the edge of said medium using a portion of said plurality of nozzles (according to Figs 2 and 3, Par [0019] and [0029], the invention of Morikawa would be capable of performing this method operation when printing at the bottom of the page similar to the explanation for claim 23)."

13. Regarding claim 25, Morikawa discloses "a position, on the most downstream side in said carrying direction, of a detection region of said sensor is on the upstream side, in said carrying direction, away from said nozzle located most upstream in said carrying direction by more than said carry amount (see Figs 2 and 3, where the detection region would be directly below the position of sensor 20 which is upstream of nozzle 11a; and Par [0019] and Fig 3 where L is greater than E)."

14. Regarding claim 26, Morikawa discloses "said carry unit has a carry roller (6 of Fig 2) for carrying said medium up to a position where said liquid can be ejected onto said medium (see Fig 2, arrow A or A'); and wherein the position, in the carrying direction, of said sensor is on the downstream side of said carry roller (see Fig 2 and 3)."

15. Regarding claim 28, Morikawa discloses "a position, on the most upstream side in said carrying direction, of a detection region of said sensor (where the detection region would be directly below the position of sensor 20) is on the downstream side, in said carrying direction, of said carry roller (6 of Fig 2; see Fig 2 and 3 for relative positioning)."

16. Regarding claim 29, Morikawa discloses “said liquid ejecting apparatus further comprises a supporting section (8 of Fig 2) for supporting said medium (4 of Fig 2) that is carried from said carry roller (6 of Fig 2); and wherein said sensor is arranged such that a detection region of said sensor (where the detection region would be directly below the position of sensor 20) is located on said supporting section (see Fig 2 and 3 for relative positioning).”

17. Regarding claim 31, Morikawa discloses “a position, on the most upstream side in said carrying direction, of the detection region of said sensor (where the detection region would be directly below the position of sensor 20) is on said supporting section (see Fig 2 and 3 for relative positioning).”

18. Regarding claim 35, Morikawa discloses “wherein said liquid is ink (Par [0001]); and wherein said liquid ejecting apparatus is a printing apparatus that prints on a medium to be printed, which serves as said medium, by ejecting the ink from said nozzles (Par [0001]).”

19. Regarding claim 37, Morikawa discloses “a main computer unit (101 of Fig 4, Par [0025]); and a liquid ejecting apparatus that is connectable (102 of Fig 4) to said main computer unit and that is provided with a movable head (11 of Fig 3) that is provided with a plurality of nozzles (11a-x of Fig 3) for ejecting a liquid; a carry unit (5 and 6 of Fig 2) for carrying a medium (4 of Fig 2) in a predetermined carrying direction (see arrows A or A' of Fig 2); and a sensor (20 of Fig 3) for detecting an edge of said medium and that is movable with said head (see position of 20 on 11 of Fig 3); wherein said liquid ejecting apparatus controls ejection of said liquid from said plurality of nozzles in

accordance with a result of the detection of said sensor (see Par [0013]); and wherein a position, in the carrying direction, of said sensor is at the same position of or on an upstream side of a nozzle located most upstream in said carrying direction, of among said plurality of nozzles (see Fig 3, where 20 is upstream of 11a-x)."

***Claim Rejections - 35 USC § 103***

20. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

21. Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over Morikawa in view of Ota (US 5917995).

22. Regarding claim 27, Morikawa discloses the claimed invention set forth above with regards to claim 26. Thus Morikawa meets the claimed invention except "a process of correcting a skew in said medium is performed on the upstream side of said carry roller," but Morikawa would be capable of performing such a process.

23. Ota teaches "a process of correcting a skew in said medium is performed (16 of Fig 4, col 6 ln 59-62) on the upstream side of said carry roller (17 of Fig 4)." It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to correct a skew of the medium upstream of the carry roller in Morikawa, as taught by Ota, to achieve the predictable results of aligning the print media before printing occurs so that the printed image appears straight and aligned on the medium when printed.

24. Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over Morikawa in view of Barbera et al. (US 6464417).

25. Regarding claim 30, Morikawa discloses the claimed invention as set forth above regarding claim 29. Thus Morikawa meets the claimed invention except “calibration of said sensor is performed based on an output signal of said sensor in a state in which said supporting section is not supporting said medium,” but Morikawa would be capable of performing such a process.

26. Barbera et al. teaches “calibration of said sensor is performed based on an output signal of said sensor in a state in which said supporting section is not supporting said medium (col 2 ln 1-3, col 4 ln 51-55, Fig 6).” It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to perform calibration based on a signal when the medium is not on the supporting section in Morikawa, as taught by Barbera et al., to achieve the predictable result of obtaining an accurate reading from the sensor throughout the life of the liquid ejecting apparatus where the size or type of medium used would not adversely affect the calibration.

27. Claims 32-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morikawa in view of Takada et al. (JP 05221103, also see provided English translation).

28. Regarding claims 32-34, Morikawa discloses the claimed invention as set forth above regarding claim 29. Morikawa further discloses regarding claim 32, “the position of said sensor (20 of Fig 3) is on the downstream side, in said carrying direction, of a position at which a front edge of said medium first comes into contact with said supporting section (8 of Fig 2, see Fig 2 and 3)” and regarding claim 34, “a position, on

the most upstream side in said carrying direction, of the detection region of said sensor (where the detection region would be directly below the position of sensor 20) is on the downstream side, in said carrying direction, of the position at which the front edge of said medium first comes into contact with said supporting section (8 of Fig 2; see Fig 2 and 3)." Thus Morikawa meets the claimed invention except regarding claim 32, "said carry unit carries said medium in a slanted manner with respect to said supporting section" and regarding claim 33, "said carry unit has a paper discharge roller for discharging said medium; and wherein said medium that has been carried in a slanted manner with respect to said supporting section passes a print region within which the liquid ejected from said nozzles land, and then reaches said paper discharge roller."

29. Takada et al. teaches regarding claim 32, "said carry unit carries said medium in a slanted manner with respect to said supporting section (see Fig 2 where the slant occurs between 9 and 10, Par [0005])." It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to carry the medium in a slanted manner in Morikawa, as taught by Takada et al., to achieve the predictable result of feeding paper from a paper storage area to perform printing with multiple pages.

30. Takada et al. teaches regarding claim 33, "said carry unit has a paper discharge roller (12, 13 of Fig 2) for discharging said medium (2 of Fig 2); and wherein said medium that has been carried in a slanted manner with respect to said supporting section (see Fig 2 where the slant occurs between 9 and 10, Par [0005]) passes a print region within which the liquid ejected from said nozzles land, and then reaches said paper discharge roller (see 4 of Fig 2, located between 9, 10 and 12, 13 of Fig 2)." It

would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to include a paper discharge roller in the arrangement taught by Takada et al. in the apparatus of Morikawa to achieve the predictable result of ejecting the medium after it has been printed in a medium discharge area so that all of the printed media are neatly collected in one location for the user to pick up.

31. Claim 36 is rejected under 35 U.S.C. 103(a) as being unpatentable over Morikawa in view of Ota, Barbera et al., and Takada et al.

32. Regarding claim 36, Morikawa discloses "a movable head (11 of Fig 3) that is provided with a plurality of nozzles (11a-x of Fig 3) for ejecting a liquid; a carry unit (5 and 6 of Fig 2) for carrying a medium (4 of Fig 2) in a predetermined carrying direction (see arrows A or A' of Fig 2); and a sensor (20 of Fig 3) for detecting an edge of said medium and that is movable with said head (see position of 20 on 11 of Fig 3); wherein said liquid ejecting apparatus controls ejection of said liquid from said plurality of nozzles in accordance with a result of the detection of said sensor (see Par [0013]); and wherein a position, in the carrying direction, of said sensor is on an upstream side of a nozzle located most upstream in said carrying direction, of among said plurality of nozzles (see Fig 3, where 20 is upstream of 11a-x); wherein said sensor detects a lateral edge of said medium (see Fig 2, Par[0018]); and wherein said liquid ejecting apparatus controls ejection of the liquid from said plurality of nozzles in accordance with a position of the lateral edge of said medium that has been detected (see Fig 2, Par [0013]); wherein a position, on the most downstream side in said carrying direction, of a detection region of said sensor is located on the upstream side, in said carrying

direction, of said nozzle located most upstream in said carrying direction (see Figs 2 and 3, where the detection region would be directly below the position of sensor 20 which is upstream of nozzle 11a); wherein said carry unit carries said medium by a predetermined carry amount in said carrying direction (see arrows A or A' of Fig 2, Par [0015]); and wherein the position, in the carrying direction, of said sensor is on the upstream side, in said carrying direction, away from said nozzle located most upstream in said carrying direction by more than said carry amount (Par [0019] and Fig 3 where L is greater than E); wherein said liquid ejecting apparatus ejects the liquid onto the edge of said medium using a portion of said plurality of nozzles after said sensor no longer detects said medium (according to Figs 2 and 3, Par [0019] and [0029], the invention of Morikawa would be capable of performing this method operation when printing at the bottom of the page); wherein said liquid ejecting apparatus ejects the liquid onto said medium using all of said plurality of nozzles in a state where said sensor no longer detects said medium, and after said carry unit has further carried said medium by said carry amount, said liquid ejecting apparatus ejects said liquid onto the edge of said medium using a portion of said plurality of nozzles (according to Figs 2 and 3, Par [0019] and [0029], the invention of Morikawa would be capable of performing this method operation when printing at the bottom of the page; wherein a position, on the most downstream side in said carrying direction, of a detection region of said sensor is on the upstream side, in said carrying direction, away from said nozzle located most upstream in said carrying direction by more than said carry amount (see Figs 2 and 3, where the detection region would be directly below the position of sensor 20 which is

upstream of nozzle 11a; and Par [0019] and Fig 3 where L is greater than E); wherein said carry unit has a carry roller (6 of Fig 2) for carrying said medium up to a position where said liquid can be ejected onto said medium (see Fig 2, arrow A or A'); and wherein the position, in the carrying direction, of said sensor is on the downstream side of said carry roller (see Fig 2 and 3); ... wherein a position, on the most upstream side in said carrying direction, of a detection region of said sensor (where the detection region would be directly below the position of sensor 20) is on the downstream side, in said carrying direction, of said carry roller (6 of Fig 2; see Fig 2 and 3 for relative positioning); wherein said liquid ejecting apparatus further comprises a supporting section (8 of Fig 2) for supporting said medium (4 of Fig 2) that is carried from said carry roller (6 of Fig 2); and wherein said sensor is arranged such that a detection region of said sensor (where the detection region would be directly below the position of sensor 20) is located on said supporting section (see Fig 2 and 3 for relative positioning); ... wherein a position, on the most upstream side in said carrying direction, of the detection region of said sensor (where the detection region would be directly below the position of sensor 20) is on said supporting section (see Fig 2 and 3 for relative positioning); ... wherein the position of said sensor (20 of Fig 3) is on the downstream side, in said carrying direction, of a position at which a front edge of said medium first comes into contact with said supporting section (8 of Fig 2, see Fig 2 and 3); ... wherein a position, on the most upstream side in said carrying direction, of the detection region of said sensor (where the detection region would be directly below the position of sensor 20) is on the downstream side, in said carrying direction, of the position at which the front

edge of said medium first comes into contact with said supporting section (8 of Fig 2; see Fig 2 and 3); and wherein said liquid ejecting apparatus is a printing apparatus that prints on said medium to be printed by ejecting the ink from said nozzles (Par [0001])."

33. Thus Morikawa meets the claimed invention except "a process of correcting a skew in said medium is performed on the upstream side of said carry roller ... calibration of said sensor is performed based on an output signal of said sensor in a state in which said supporting section is not supporting said medium ... said carry unit carries said medium in a slanted manner with respect to said supporting section ... said carry unit has a paper discharge roller for discharging said medium; and wherein said medium that has been carried in a slanted manner with respect to said supporting section passes a print region within which the liquid ejected from said nozzles land, and then reaches said paper discharge roller."

34. Ota teaches "a process of correcting a skew in said medium is performed (16 of Fig 4, col 6 ln 59-62) on the upstream side of said carry roller (17 of Fig 4)." It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to correct a skew of the medium upstream of the carry roller in Morikawa, as taught by Ota, to achieve the predictable results of aligning the print media before printing occurs so that the printed image appears straight and aligned on the medium when printed.

35. Barbera et al. teaches "calibration of said sensor is performed based on an output signal of said sensor in a state in which said supporting section is not supporting said medium (col 2 ln 1-3, col 4 ln 51-55, Fig 6)." It would have been obvious to one of

ordinary skill in the art at the time of the applicant's invention to perform calibration based on a signal when the medium is not on the supporting section in Morikawa, as taught by Barbera et al., to achieve the predictable result of obtaining an accurate reading from the sensor throughout the life of the liquid ejecting apparatus where the size or type of medium used would not adversely affect the calibration.

36. Takada et al. teaches, "said carry unit carries said medium in a slanted manner with respect to said supporting section (see Fig 2 where the slant occurs between 9 and 10, Par [0005])." It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to carry the medium in a slanted manner in Morikawa, as taught by Takada et al., to achieve the predictable result of feeding paper from a paper storage area to perform printing with multiple pages.

37. Takada et al. further teaches, "said carry unit has a paper discharge roller (12, 13 of Fig 2) for discharging said medium (2 of Fig 2); and wherein said medium that has been carried in a slanted manner with respect to said supporting section (see Fig 2 where the slant occurs between 9 and 10, Par [0005]) passes a print region within which the liquid ejected from said nozzles land, and then reaches said paper discharge roller (see 4 of Fig 2, located between 9, 10 and 12, 13 of Fig 2)." It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to include a paper discharge roller in the arrangement taught by Takada et al. in the apparatus of Morikawa to achieve the predictable result of ejecting the medium after it has been printed in a medium discharge area so that all of the printed media are neatly collected in one location for the user to pick up.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian J. Goldberg whose telephone number is (571)272-2728. The examiner can normally be reached on Monday through Friday, 9AM-5PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Luu can be reached on 571-272-7663. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/LUU MATTHEW/  
Supervisory Patent Examiner, Art Unit 2861

/Brian J. Goldberg/  
Examiner  
Art Unit 2861